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Review Article

The Modeling of Total Cost and Revenue in Stock Market on Economics

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Abstract

The relationship between investment and shares is established to find the intrinsic nature. It is found when the best labour is 6 the cost is low and the number of shares are 1000 with the intersection of 1~4 RMB which is net profit point. When the best capital is 6 units the profit will be 5 RMB and the profit point is 1400 of the number of shares with the 5 RMB. The profit may become the positive at 780 pieces when the best labor is one. It explains that beyond this point the total net profit may be 3~4 Yuan may be best net profit in average profit. TR≤2TC that says the Tpro may be best start because TCquan≤0 in intersection between Tpro and TC. The total profit will be 3~4 Yuan according to the best labor and capital. The best labor is 1 whilst the best capital is 6 in this condition. In total TR≥2TC is the valid value to make more profit which is concluded in this paper.

Keywords: modeling; investment cost; shares; profit; stock market; economics.

1. INTRODUCTION

The investment and shares is a behavior with investing certain money and requiring revenue from investment and shares in stock market. This process includes buy and sale shares in order to form the profile of shares so it is a process which completes these two functions in whole process. The profit is calculated through revenue and shares which is an important factor in this process. In this paper the revenue has been computed and drawn from their relation with cost. The revenue and AC, AVC &AFC which is shares is investigated for searching their change in these processes. For the better benefit it must be studied further it can gain the profit use. Since the stability is key as for this procedure. How we can define stable and low cost parameter is significant matter. For the inference the different drawing between profit cost and quantity is made to analyze the change and low cost situation in this study. The constant labor L & capital K is defined to fit to cost value for this process [1-4].

The total profit has an important role with the quantity. Because the average one is evaluating the cost per quantity under the best labor and capital on economics. If the cost is big it will increase cost burden. Only if the best net profit can decrease the cost price and the reasonable choose may be used in determining the total cost. Because of its availability it may be chosen for other factor such as the random price promotion. In this paper the revenue is adopted from higher value to check the piece and the cost value. Since there are kinds of cost which needs regulation of total cost with profit and then pay attention to net one. The former has been controlled with TR ie price but the latter is so difficult to control so in this paper we use Tpro=TR-TC-total quantity balance cost to control it. So as to higher revenue the low cost value and low pieces is necessary. For the sake of the least total cost the best labor and capital has been established firstly and then determined the least total cost equation with quantity and labor.

2. MODELING AND DISCUSSIONS

The Investment and shares has been established according to modeling with economic equations that has a certain role in stock market. So Cobb-Douglas function is used to complete the modeling. The detail establishment and modeling is as related literature.

The Cobb-Douglas function is

$$Q = \gamma L^{\alpha} K^{\beta} \text{ --(1)}$$

Here Production quantity Q; γ is technique coefficient; α is producing labour; β is capital

elasticity. K is capital; L is labour; TC is total cost; AC is average cost; AR is the average revenue; TR is total revenue. The calculated constant is γ=1076; α=1.25; β=-0.26 respectively.

Because from (1) it has
$L=[Q/(\gamma K^{\beta})]^{1/\alpha}$----(2)
Since
$TC=P_K K + P_L L$ -- （3）
So it has
$TProf = TR - TC$ --(4)
And
AProf=TProf/Q --(5)

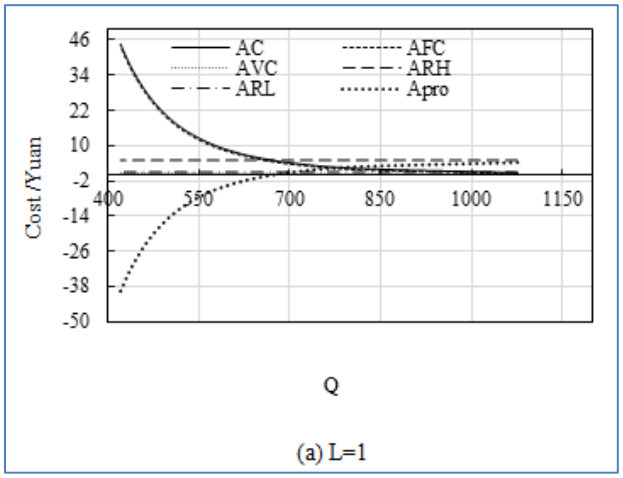
The Tprofit is the total profit; Aprofit is the average profit; The parameter P_l is labor price and P_k is capital price. They are 300 and 500Yuan respectively. Turnover is in terms of 5Yuan per share and Q is piece of shares. The parameter of constant value with labor and capital & quantity. It is chosen that 10groups value to acquire average ones. The detail narration is expressed as below.

It is found when the best labour is 1 the cost is low and the number of shares are 1000 when average cost is 46 and total cost is 18000 Yuan in initial stage from Figure 1(a~d). The total profit is 16000 and average profit may be 38. Meantime when the best capital is 6RMB/unit the average cost is 5 and total cost is 4000Yuan with linear parallel. The average profit is 4RMB and the total profit will be 30000 RMB. It explains that the stable profit is in best labor one rather than best capital profit in 6. The average profit and total one may be larger than zero which is considered as net profit. Figure 1(c &f) is the multiple part to be detailed observation. It is found that the profit may become the positive at 670 pieces when the best labor is one. It explains that beyond this point the total profit may be produced as mentioned turn point for company.

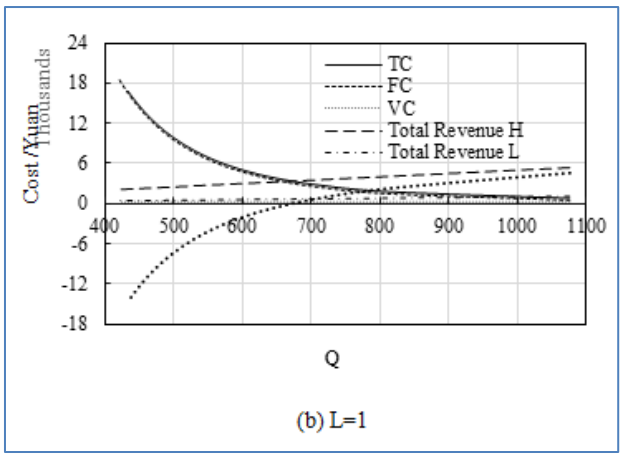
Since in the intersection of Tpro and TC it has
Tpro=TC=TR-TC-TCquan ---(6)
So it has TC=1/2(TR-TCquan) ---(7)
Ie. TCquan=TR-2TC.

Here TCquan is the quantity effect of total cost due to original quantity. If TCquan=TR-2TC≤ 0 it has TR≤ 2TC ---(8). This is the TR curve before the intersection. However if TCquan=TR-2TC≥ 0 it has TR≥ 2TC ---(9). it is after this intersection. It means that TR-2TC is more benefited with TR being bigger according to the Figure 1(a~f). If TCquan is negative it is good to Tpro. The condition is equation (8). It has AR≤ 2AC ---(10) according to Apro. It has the similar to Tpro it is constructed as above. here Tpro=TC =1/2(TR-TCquan) is the intersection total profit. It is chosen in the TR curve and determined the shares quantity.

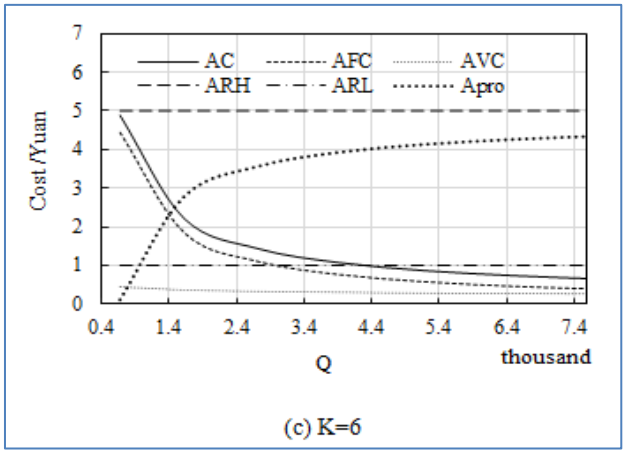
The intersection of 2.5 Yuan between the total cost and Apro may explain with the double ie. 2TC=4 Yuan at the quantity of 2,000 is the net profit value as mentioned above with constant capital 6 in Figure 1(c). The double TC 8,000Yuan at the quantity of 2,000 is the start point which expresses the net profit may be created from it forwards with the same capital from Figure 1(d).



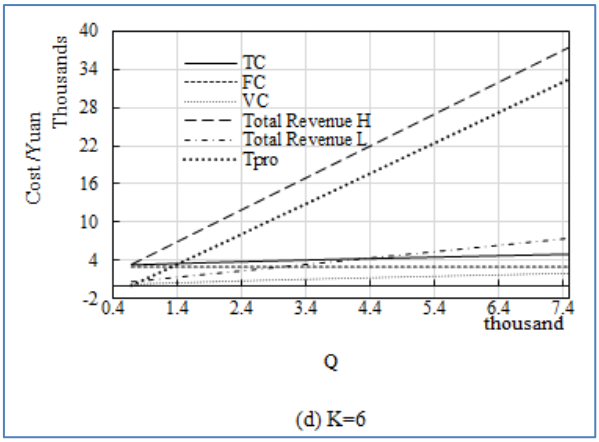
(a) L=1

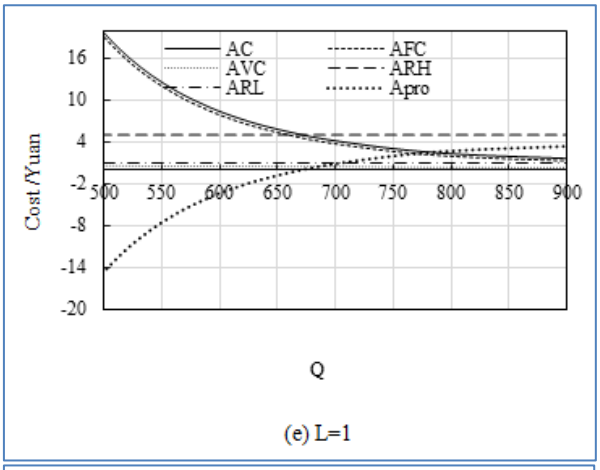


(b) L=1



(c) K=6





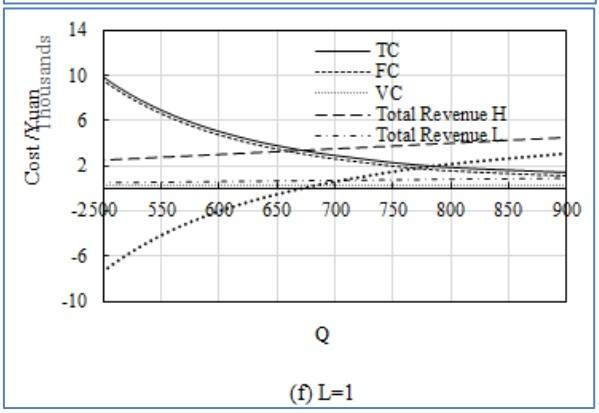


Fig-1: The relationship between cost and number of shares with Pl=300 &Pk=500.

From Figure 1 the profit will intersect when the AC at 780 pieces which explains the net profit with quantity of shares at the labor of 1. The 780 may represent the net profit which subtracts the various capital and machine damaged fee besides the product cost increasing of low quantity. The quantity is between 680 and 780 pieces from profit to net profit. When it is below 680 it has TC≥TR ie. Tpro= TR-TC≤0. Tpro is negative which lies in intersection of TR and TC ie turnover point mentioned above. Whilst it is beyond 780 the TR≥TC+cost increasing of quantity ie. Tpro=TR-TC≥0 means that the net profit is begun from this point. Any manufacturer need to produce their product beyond this intersection that can make profit from it so that it is a certain positive which means the total profit cancels product cost increasing of low quantity. So this intersection is the start of net profit is produced. The average shares will be 3 Yuan and the total shares may be 2000Yuan at this point. The total profit increases from -7,000 to 4,000 with the quantity increasing. The best shares lie in 60Yuan according to published paper. It explains that the increasing capital will increase the revenue. The price of labor and capital increase the maximum number of shares will decrease. It ranges from 40,000 to 5,000 shares. It expresses that increasing the price will cause maximum shares decrease which is not benefited to us.

In general in Figure 1 it is expressed that the best profit will increase with the labor increasing. Meantime it increases when the capital increases from 400 Yuan to 1100 Yuan. In short the AC will intersect with AR ie shares so it is benefit to us if the profit point is negative. The largest shares will be in the condition intersection between Tpro and TC that is 2TC with RMB when TCquan ≤0 it means the best investment of shares will be formed because the controlling TCquan≤ 0 has been available. In former the AFC/FC and AC/TC has the same curve whilst the later has too. The AVC has little one correspondingly.

3. CONCLUSIONS

1. According to TR≤2TC that say the Tpro may be best start because TCquan≤0 in intersection between Tpro and TC. The total profit will be 3~4 Yuan according to the best labor and capital. The best labor is 1 whilst capital is 6 in this condition.

2. The biggest total profit will happen which attains 20,000 and 40,000 shares at intersection it will increase two times with highest profit which is start net profit who is beyond this value the pure one may be obtained. It becomes larger if the distance with this profit point is longer. So the biggest starting shares will take its role according to TR=2TC conclusion in the best condition of labor and capital. In total TR≥2TC is the valid value to make best profit which is observed in this paper.

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